PANDEMIC INFLUENZA
U•P•D•A•T•E

Public Health Prepares

March 2007

Fast Facts

School of Preparedness and Emergency Response

CDC's School of Preparedness and Emergency Response continues to foster its ongoing partnerships and develop new collaborations across the agency to ensure that all CDC employees and contractors are equipped with the knowledge and skills they will need when they are deployed to the field or the Directors Emergency Operations Center.

The school's curriculum is also designed to address preparedness requirements by response role. The Federal Emergency Management Agency's (FEMA) National Incident Management System (NIMS) Integration Center and the CDC have coordinated the NIMS training curriculum requirements for the CDC workforce. Curriculum paths have been identified for each role on the basis of public health emergency response requirements.

For more information, visit the School of Preparedness and Emergency Response Web site.

If You Are Asked . . .

How will communities know what level of response measures to take during a pandemic?

PanFlu FYI

Get Informed!

CDC's Influenza Pandemic Operation Plan is now available online.

Public health officials have introduced a system, the Pandemic Severity Index, to help states and communities determine the appropriate level of preparation during a pandemic. The Index, which is included at the end of this *Update,* is much like the hurricane rating system and is designed to enable better prediction of the severity of a pandemic and to allow better forecasting of the impact on a population level. Thus, the index will allow local decision-makers to make use of mitigation interventions and recommendations that are matched to the severity of a pandemic outbreak.

The Index models the five-category scale of the hurricane rating system by assigning its highest rating of 5 to a pandemic outbreak that is spreading rapidly and its lowest rating of 1 to an outbreak that is spreading slowly.

"Everyone knows what a category 1 hurricane is," said CDC Director, Dr. Julie Gerberding. "Everyone understands what a category 4 or 5 hurricane is. We have embedded in our minds some understanding of the difference in severity of a different level of planning that might be required and the different harm that could come from these kinds of different scenarios."

According to Dr. Martin Cetron, Director, National Center for Preparedness, Detection, and Control of Infectious Disease, characterizing a pandemic's severity is a new and necessary planning concept. Until now, the chief consideration was the closeness of a pandemic threat in time and distance. We know quite well when to use mitigation measures that can lessen the spread of disease, but such measures can be socially disruptive. "Attuning and balancing the severity of the threat with the types of interventions and tools in your toolbox are very important," he said.

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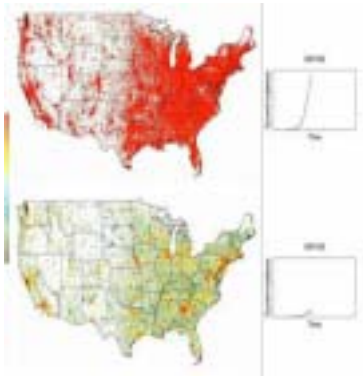
NIH Uses Computer Modeling to Provide Answers



If pandemic flu were to emerge in the United States, what interventions might slow its spread and minimize the impact? With support from the National Institutes of Health (NIH), researchers from the Fred Hutchinson Cancer Research Center in Seattle, WA., and the Los Alamos National Laboratory in Los Alamos, NM, have used computer models to suggest possible answers. The findings appear in the April 11, 2006, issue of the *Proceedings of the National Academy of Sciences* and will be available in the online edition the week of April 3, 2007.

By developing a model that represents the U.S. population and tests different properties of a potential pandemic flu virus, the researchers evaluated the effectiveness of different intervention strategies. They found that, depending on the contagiousness of the virus, a variety of approaches could reduce the number of cases to less than that of an annual flu season.

"Preparing for a potential pandemic is tremendously challenging, given the potential scope and the large number of unknowns," said NIH Director Elias A. Zerhouni, M.D. "The best approach is to use all of the tools available to us, including computer modeling. By predicting the impact of intervention strategies, these models can help health officials and policymakers plan for a real pandemic." (Full Story)

Experts Say Further Study of Past Pandemics Key to Pandemic Planning, Preparedness

Scientists and public health officials, wary that the H5N1 avian influenza virus could trigger an influenza pandemic, have looked to past pandemics, including the 1918 "Spanish Flu," for insight into pandemic planning. However, in a *Journal of Infectious Diseases* review article, "The 1918 Influenza Pandemic: Insights for the 21st Century," David M. Morens, M.D., and Anthony S. Fauci, M.D., of the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, conclude that studies of the 1918 influenza pandemic, which killed some 50 to 100 million people around the globe, have so far raised more questions than they answer.

> ***"The more we learn about influenza A viruses and what they can do to maintain their deadly relationship with the human species, the more remarkable they seem."***
>
> *Dr. David M. Morens*
> *NIAID*

"Today, nearly a century after the 1918 influenza pandemic, its mysteries remain largely unexplained," says Dr. Fauci, NIAID director. "Much work remains to be done, by scientists as well as by historians and other scholars, with regard to the many unanswered questions surrounding this historic pandemic. These studies must be part of our preparedness efforts as we face the prospect of a future influenza pandemic." (Full Story)

UN, USDA Sign Framework Agreement

On March 14, 2007 Agriculture Secretary Mike Johanns and Director-General Jacques Diouf of the United Nations' Food and Agriculture Organization (FAO) today signed a Framework Agreement to coordinate technical assistance between USDA and the FAO. The agreement will help to address issues important

to agriculture, such as chronic hunger, plant and animal diseases, including avian influenza, conservation, genetic resources and the growing demand for renewable energy resources.

Ethical Guidelines in Pandemic Influenza

As part of its planning for a possible outbreak of pandemic influenza, CDC is preparing a document entitled *Ethical Guidelines in Pandemic Influenza*. The Ethics Subcommittee of the Advisory Committee to the Director, CDC, has been asked provide valuable input for this document by identifying ethical considerations relevant to public health decision-making during planning for and responding to pandemic influenza.

The Subcommittee was requested to provide input on ethical considerations in vaccine and anti-viral drug distribution prioritization and in the development of interventions that would lessen the spread of pandemic influenza but that, by their nature, would also limit individual freedom and create social distancing. *Ethical Guidelines in Pandemic Influenza,* will provide guidance that the Ethics Subcommittee proposes serve as a foundation for ethical decision-making regarding pandemic influenza. The Subcommittee recognizes that various perspectives on ethics provide important practical assistance to those involved in the pandemic influenza planning and response process; thus, they welcome your input on this document.

Please forward comments to:
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"This agreement will facilitate greater international coordination and collaboration on a broad range of agricultural issues and help to protect our agricultural systems," said Johanns. "I believe the benefits will be immediate by enhancing the worldwide response to highly pathogenic H5N1 avian influenza." (Full Story)

Update on H5N1

Animal Situation Update:
On March 1, Turkey reported four H5N1 poultry outbreaks in backyard chickens and turkeys. Control measures have been applied including movement control and quarantine.
On March 6, China reported an outbreak of H5N1 in 680 of 7,670 susceptible chickens in Tibet. The source of the outbreak is unknown.
On March 7, Myanmar reported an outbreak of H5N1 in a small poultry flock in Rangoon Province. All 167 birds have died or been culled.
On March 8, South Korea reported an outbreak of H5N1 in a breeding duck farm. Prior to culling, the farm had experienced a drop in egg production and the death of 13,560 birds. The national veterinary laboratory confirmed H5N1 in the flock. View the update on avian influenza in animals at the World Organization for Animal Health site.

Human Situation Update:
On March 12, Egypt reported a new human case confirmed by Egyptian Central Public Health Laboratory and NAMRU-3. A 4-year-old boy developed symptoms on March 7, and was admitted to a hospital March 8.
On March 8, the Ministry of Health in Lao People's Democratic Republic announced the death of the case reported on February 27. The 15-year-old female died after being hospitalized in neighboring Thailand. (Visit the WHO Web site for the most recent human cases reports.)

CDC Recommends

During an influenza pandemic, work at CDC will likely not continue as normal

During a pandemic, most, if not all, of the agency's focus will be on responding to the pandemic and serving the public health needs of the country. In addition, the manner in which CDC performs its work will likely change as social distancing measures are taken to help lessen the spread of infection.
While some employees will still be required to report to CDC facilities to work, other employees may be directed to work from a 'safe haven' (i.e., their home) and still others may be temporarily placed on administrative leave. The situation that applies to you may change during the course of the pandemic, and you can expect to be notified of what actions you should take through a variety of methods, including phone calls, e-mails, the CDC Intranet, and the CDC Internet.

Pandemic Influenza Update: Reader's Feedback
The Pandemic Influenza Update is prepared by CDC's Priority Communication System and will now be prepared once a month. Information in this newsletter is sensitive and evolving. Readers are welcome to comment by e-mail to: panupdate@cdc.gov

The Pandemic Severity Index. The chart to the right categorizes pandemic severity on a scale of 1 to 5 by various pandemic characteristics, including case fatality ratio (the proportion of deaths among clinicall ill persons)—the key measurement in determining the Pandemic Severity Index. It displays ranges of illness rates and corresponding numbers of potential U.S. deaths, by index category. For historica context, the data are compared with the U.S experience with 20th century influenza pandemics and seasonal influenza outbreaks.